

## 4.11 NOISE

This section describes the noise environment in the vicinity of the proposed Project, and potential impacts to the noise environment associated with implementation of the proposed Project. This document incorporates by reference the conclusions of the EMT EIR regarding baseline noise environment conditions. Where this document relies upon MMs contained in the EMT EIR to address Project impacts, these are summarized to permit report reviewers to understand their relationship to the Project.

### 4.11.1 Environmental Setting

#### Definitions

Noise is defined as unwanted sound that is heard by people or wildlife and that interferes with normal activities or otherwise diminishes the quality of the environment. Noise is usually measured as sound level on a logarithmic dB scale, with the frequency spectrum adjusted by the A-weighting network. The dB is a unit division on a logarithmic scale that represents the intensity of sound relative to a reference intensity near the threshold of normal human hearing. The A-weighting network is a filter that approximates the response of the human ear at moderate sound levels. The resulting unit of measure is the A-weighted decibel, or dBA.

To analyze the overall noisiness of an area, noise events are combined for an instantaneous value or averaged over a specific time period, e.g., one hour, multiple hours, 24 hours. The time-weighted measure is referred to as Equivalent Sound Level and represented by  $L_{eq}$ . The equivalent sound level is defined as the same amount of sound energy averaged over a given time period. The percentage of time that a given sound level is exceeded can also be represented. For example,  $L_{10}$  is a sound level that is exceeded 10 percent of the time over a specified period.

#### Effects on Wildlife

Wildlife response to noise is dependent not only on the magnitude but also the characteristic of the sound, or the sound frequency distribution. Wildlife is affected by a broader range of sound frequencies than humans. Determining the effects of noise on wildlife is complicated because responses vary between species and individuals of a population. However, noise is known to affect an animal's physiology and behavior, and chronic noise-induced stress is deleterious to an animal's energy budget, reproductive success, and long-term survival (Radle 2001). Noise impacts to marine wildlife are detailed in Section 4.6, Marine Biological Resources.

## Effects on Humans

Human response to noise is dependent not only on the magnitude but also on the characteristic of the sound, or the sound frequency distribution. Generally, the human ear is more susceptible to higher frequency sounds than lower frequency sounds. Human response to noise is also dependent on the time of day and expectations based on location and other factors. For example, a person sleeping at home might react differently to the sound of a car horn than to the same sound while driving during the day. The regulatory process has attempted to account for these factors by developing overall noise ratings such as Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level ( $L_{dn}$ ) which incorporate penalties for noise occurring at night. The  $L_{dn}$  rating is an average of noise over a 24-hour period in which noises occurring between 10:00 p.m. and 7:00 a.m. are increased by 10 dBA. The CNEL is similar but also adds a weighting of 3 dBA to noises that occur between 7:00 p.m. and 10:00 p.m. Average noise levels over daytime hours only (7:00 a.m. to 7:00 p.m.) are represented as  $L_d$  and nighttime noises as  $L_n$ . Figure 4.11-1 is a scale showing typical noise levels encountered in common daily activities.

The effects of noise are considered in two ways: how a proposed Project may increase existing noise levels and affect surrounding land uses and how a proposed land use may be affected by existing surrounding land uses. The Goleta GP/CLUP Noise Element focuses on particular types of land uses (sensitive receptors) when measuring the effects of noise. These “sensitive receptors” include residences, transient lodging, such as hotels and motels, hospitals, nursing homes, convalescent hospitals, schools, libraries, houses of worship, and public assembly places.

When a new noise source is introduced, most people begin to notice a change in environmental noise levels at approximately 5 dBA. Typically, average changes in noise levels of less than 5 dBA cannot be definitely considered as producing an adverse impact. For changes in levels above 5 dBA, it is difficult to quantify the impact beyond recognizing that greater noise level changes would result in greater impacts (CSLC 2006).

In community noise impact analysis, long-term noise increases of 5 to 10 dBA are considered to have “some impact.” Noise level increases of more than 10 dBA are generally considered severe. In the case of short-term noise increases, such as those from construction activities, the 10 dBA threshold between “some” and “severe” is replaced with a criterion of 15 dBA. These noise-averaged thresholds shall be

**FIGURE 4.11-1. COMMON ENVIRONMENTAL NOISE LEVELS**

Common Outdoor Noise Levels	Noise Level (dBA)	Common Indoor Noise Levels
Chain Saw	110	Rock Band
Jet takeoff at 2 miles	100	
Ambulance siren at 100 feet	90	Food Blender at 3 feet
Gas Lawnmower at 3 feet	80	Garbage Disposal at 3 feet
Diesel Truck at 50 feet	70	Shouting at 3 feet
Gas Lawnmower at 100 feet	60	Vacuum Cleaner at 10 feet
Commercial Area	50	Normal Conversation at 5 feet
Small plane landing at ¼ miles	40	Air Conditioner
Quiet Urban Daytime Light Traffic at 100 feet	30	Large Business Office
Quiet Urban Nighttime	20	Dishwasher Next Room
Quiet Suburban Nighttime	10	Distant Birds
Quiet Rural Nighttime	0	Library
		Soft Whisper, Bedroom at Night
		Broadcast and Recording Studio
		Threshold of Hearing

Source: Adapted from FAA 2005.

lowered when the noise level fluctuates, when the noise has an irritating character such as considerable high frequency energy, or if it is accompanied by subsonic vibration. In these cases the impact must be individually estimated.

#### Project Area Overview

Major sources of noise in the vicinity of the Project area include breaking waves along the beach, occasional aircraft overflights (the Santa Barbara Airport is approximately 6 miles from PRC 421), the EOF, and on-road traffic.

The piers are located on State tide and submerged lands below the bluffs marking the southern limit of the Sandpiper Golf Course. On the north and east sides, the PRC 421 piers are surrounded by public beach area and the Sandpiper Golf Course. To the northwest of the piers is the Bacara Resort (approximately 0.75 miles from PRC 421). South of the piers is the Pacific Ocean. The Sandpiper Golf Course is the nearest noise receptor to the Project area.

Two noise studies were conducted for a previous EIR to collect baseline noise levels in the vicinity of the proposed Project. Noise measurements were collected on May 24, 2005, during the day and in the evening at the sensitive receptors in the vicinity of the Project area, and during the day on July 21, 2005. The data collected included  $L_{eq}$ , maximum levels, and minimum levels. Noise levels associated with the maximum reading were generally produced by the ocean surf for locations near the beach, or by traffic on nearby local roads for other areas. Noise from aircraft overflights associated with the Santa Barbara Airport could be heard from all locations (CSLC 2006). Background noise levels measured in the study area and their distance to PRC 421 are shown in Table 4.11-1. A third noise monitoring study was conducted August 9, 2005 near the Line 96 tie-in at EOF, in the vicinity of the Bacara Resort, Sandpiper Golf Course, and residences on the north side of Highway 101. This study examined only daytime ambient noise levels and determined that day background  $L_{eq}$  noise levels in this location were between 60 and 63 dBA. Figure 4.11-2 shows a map of the background-noise-monitoring locations.

#### **4.11.2 Regulatory Setting**

Noise is regulated at the Federal, State, and local levels through regulations, policies, and/or local ordinances. Local policies are commonly adaptations of Federal and State guidelines, based on prevailing local conditions or special requirements. These guidelines have been developed at the Federal level by the U.S. EPA and the DOT

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**FIGURE 4.11-2. NOISE MONITORING LOCATIONS**

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Source: Photo adapted from: Santa Barbara County 2004.

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**Table 4.11-1. Baseline Noise Levels in the Vicinity of the Project Area**

Location/Sensitive Receptor	Distance from PRC 421	Major Noise Sources	L <sub>eq</sub> , dBA			
			Day	Eve.	Night	CNEL
1. Ellwood Mesa pedestrian and biking trail	8,509 feet	Trucks, noise from EMT, aircraft	49.6	56.3	51.3	58.6
2. Public walking trails on ocean bluff	8,714 feet	Ocean	63.8	63.0	58.0	66.4
3. Public beach area east of the piers	9,008 feet	Ocean	63.2	59.7	54.7	64.0
4. Vicinity of Bacara Resort and Sandpiper Golf Course		Cars, Ocean	60-63	NM	NM	NM

NM = not measured

Source: CSLC 2006.

[which includes the Federal Administration Aviation (FAA) and Federal Highway Administration (FHWA)] and at the State level by the now-defunct California Office of Noise Control and by the California Department of Transportation (Caltrans). A summary of the regulatory setting for noise is provided below.

### Federal Regulations

#### *U.S. Department of Transportation*

The FAA maintains jurisdiction over flight patterns for all aircraft. Federal Air Regulation (FAR) 36 establishes noise level criteria and measurement procedures for civilian fixed-wing aircraft. No specific regulations have been adopted for civilian helicopters.

The FHWA has established traffic-noise design levels for use in the planning and design of federally funded highway projects (see Table 4.11-2). These levels are based on the category of activity through which the freeway passes. These categories range from A, for areas of extraordinary significance, to E for interior noise impacts, as described below. Category D is applicable to undeveloped lands and has no specific L<sub>eq</sub> or L<sub>10</sub> value. The DOT has established allowable noise levels for motor vehicles (49 CFR Chapter III, Part 325). These standards address measurement protocols for measuring highway noise, instrumentation, and stationary testing procedures.

#### *Noise Control Act*

Under the authority of the Noise Control Act of 1972, the U.S. EPA has established noise emission criteria and testing methods (40 CFR Chapter 1, Subpart Q). These criteria apply to interstate rail carriers and to some types of construction and transportation equipment.

**Table 4.11-2. FHWA Traffic Noise Design Levels**

Category	Category Description	L <sub>eq</sub>	L <sub>10</sub>
A	Tracts of land in which serenity and quiet are of extraordinary significance. May include parks, open spaces, or historic districts.	57	60
B	Picnic areas, recreation areas, playgrounds, and other parks. Also, residences, hotels/motels, churches, libraries, and hospitals.	67	70
C	Developed lands.	72	75
E	Residences, hotels/motels, churches, libraries, and hospitals.	52 (interior)	55 (interior)

Notes: These noise levels are based on hourly L<sub>eq</sub> or hourly L<sub>10</sub> levels for interior and exterior exposure of surrounding land uses. Category D is applicable to undeveloped lands and has no specific L<sub>eq</sub> or L<sub>10</sub> value, and therefore is not mentioned here.

Source: FHWA 1982.

## State Regulations

### *California Administrative Code*

The California Administrative Code, Title 4, which applies to airports operating under permit from the Caltrans Division of Aeronautics, defines a noise-impacted zone as any residential or other noise-sensitive use with CNEL 65 and above. The California Administrative Code, Title 2, establishes CNEL 45 as the maximum allowable indoor noise level resulting from exterior noise sources for multi-family residences.

### *California Streets and Highways Code*

The California Streets and Highways Code, section 216 (Control of Freeway Noise in School Classrooms) requires, in general, that Caltrans abate noise to 55 dBA, L<sub>10</sub>, or 52 dBA, L<sub>eq</sub> or less. Caltrans Policy and Procedure Memorandum P74-47 (Freeway Traffic Noise Reduction, September 24, 1974) outlines the Caltrans policy and responsibilities related to transportation noise. In the California Government Code, section 65302, Caltrans is also required to provide cities and counties with a noise contour map along State highways. The State Motor Vehicle Code includes regulations related to the selling and use of vehicles that do not meet specified noise limits.

## Local Regulations

### *City of Goleta GP/CLUP*

The Goleta GP/CLUP was adopted by the Goleta City Council on October 2, 2006 and became effective on November 1, 2006. The following Noise Element Policy (NE) became effective as of November 1, 2006.

The Goleta CP/CLUP NE 1.1 protects noise sensitive interior uses by minimizing noise impacts.

*The City shall use the standards and criteria within the Noise Element to establish compatibility of land use and noise exposure. The City shall require appropriate mitigation, if feasible, or prohibit development that would subject proposed or existing land uses to noise levels that exceed acceptable levels as indicated in this table. Proposals for new development that would cause standards to be exceeded shall only be approved if the project would provide a substantial benefit to the City (including but not limited to provision of affordable housing units or as part of a redevelopment project), and if adequate mitigation measures are employed to reduce interior noise levels to acceptable levels.*

NE 1.3 describes noise buffers

*When feasible, the City should require an open space or other noise buffer between new projects that are a source of noise and nearby sensitive receptors. The nature and extent of the noise buffer shall be determined based upon site-specific conditions.*

NE 1.4 outlines the makeup of acoustical studies

*An acoustical study that includes field measurement of noise levels may be required for any proposed project that would: a) locate a potentially intrusive noise source near an existing sensitive receptor, or b) locate a noise-sensitive land use near an existing known or potentially intrusive noise source such as a freeway, arterial roadway, railroad, industrial facility, or airport traffic pattern. Acoustical studies should identify noise sources, magnitudes, and potential noise mitigation measures and describe existing and future noise exposure. The acoustical study shall be funded by the applicant and conducted by a qualified person or firm that is experienced in the fields of environmental noise assessment and architectural acoustics. The determination of applicability of this requirement shall be made by the Planning and Environmental Services Department by applying the standards and criteria outlined within the Noise Element.*

1 The Goleta GP/CLUP NE 6.4 places restrictions on construction hours. The policy  
2 states:

3 *“Noise-generating construction activities for projects near or adjacent to*  
4 *residential buildings and neighborhoods or other sensitive receptors shall*  
5 *be limited to Monday through Friday, 8:00 a.m. to 5:00 p.m. Construction*  
6 *in nonresidential areas away from sensitive receivers shall be limited to*  
7 *Monday through Friday, 7:00 a.m. to 4:00 p.m. Construction shall*  
8 *generally not be allowed on weekends and State holidays.....All*  
9 *construction sites subject to such restrictions shall post the allowed hours*  
10 *of operation near the entrance to the site, so that workers are aware of*  
11 *this limitation.”*

12 The NE provides Noise and Land Use Compatibility Criteria for various land uses. This  
13 criterion identifies noise levels of 50-70 dBA as “Normally Acceptable” levels at golf  
14 courses, riding stables, water recreation, and cemeteries. Levels between 70 and 80  
15 dBA are classified as “Normally Unacceptable” and levels above 80 dBA are classified  
16 as “Clearly Unacceptable.”

17 NE 6.5 states:

18 *The following measures shall be incorporated into grading and building*  
19 *plan specifications to reduce the impact of construction noise:*

20 *a. All construction equipment shall have properly maintained sound-*  
21 *control devices, and no equipment shall have an unmuffled exhaust*  
22 *system.*

23 *b. Contractors shall implement appropriate additional noise MMs*  
24 *including, but not limited to, changing the location of stationary*  
25 *construction equipment, shutting off idling equipment, and installing*  
26 *acoustic barriers around significant sources of stationary construction*  
27 *noise.*

28 *c. To the extent practicable, adequate buffers shall be maintained*  
29 *between noise-generating machinery or equipment and any sensitive*  
30 *receptors. The buffer shall ensure that noise at the receiver site does*  
31 *not exceed 65 dBA CNEL. For equipment that produces a noise level*

of 95 dBA at 50 feet, a buffer of 1,600 feet is required for attenuation of sound levels to 65 dBA (City of Goleta 2006).

### 4.11.3 Significance Criteria

A noise impact is considered significant if noise levels from Project operations exceed the local policies and noise standards. Thus, the noise policies of the Santa Barbara County and the city of Goleta shall be adhered to, as well as the UCSB Long Range Development Plan of 1990 sections 30240(b).16 through 30240(b).18, for areas within campus boundaries.

Impacts of the proposed Project would therefore be considered significant if:

- A noise level of greater than 65 dBA resulted from grading and construction activity proposed within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities (City of Goleta 2006).
- Noise levels at neighborhood parks increased above 70 dBA, or levels at golf courses and riding stables increased above 70 dBA (City of Goleta 2006).
- Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dBA CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dBA CNEL or less (Santa Barbara County 2002).
- A project will generally have a significant effect on the environment if it will increase substantially the ambient noise levels for noise-sensitive receptors adjoining areas. This may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dBA CNEL or more. However, a significant effect may also occur when ambient noise levels affecting sensitive receptors increase substantially but remain less than 65 dBA CNEL, as determined on a case-by-case level (Santa Barbara County 2002).

### 4.11.4 Impact Analysis and Mitigation

The nearest sensitive receptor, as defined by the Goleta GP/CLUP, is the Bacara Resort, which is approximately 3,800 feet west of the proposed Project area. The nearest residences to the Project site are approximately 2,500 feet southeast of the proposed Project area. Elevated noise levels from construction and grading activities would therefore not occur within 1,600 feet of any sensitive receptors and would not

conflict with this significance threshold (under 65 dBA). Noise associated with the proposed Project would be less than historic levels since the use of a downhole ESP pump would eliminate the surface pumping equipment and therefore the noise associated with the previous oil pumping equipment. Therefore, implementation of the proposed Project would not increase noise levels of outdoor or interior living areas and no noise impacts to residences or sensitive receptors would occur.

With regard to impacts to recreational facilities, currently day background  $L_{eq}$  noise levels in the vicinity of the proposed Project, the Sandpiper Golf Course, and the adjacent beach area are in the range of 60 to 63 dBA, as determined by the noise study performed on August 9, 2005 for the EMT EIR.

#### **Impact NZ-1: Construction Impacts to Recreational Beach Users and Golfers**

**Noise levels would increase during Project construction potentially affecting a public beach and the Sandpiper Golf Course (Less than Significant, Class III).**

#### Impact Discussion

Noise levels from construction machinery were modeled using documented noise levels (U.S. EPA 1971). The loudest piece of construction equipment that would be used during the Project is the pile driver. Noise at 50 feet from the pile driver could reach 90 dBA  $L_{eq}$ ; however, at 1,000 feet,  $L_{eq}$  would be 64 dBA. The public beach area adjacent to the proposed Project site is a low-use beach area due to its distance from nearby access points (approximately 0.5 mile west of access from Ellwood Mesa and 0.5 mile east of access from the Bacara Resort). In addition, the beach is ephemeral with sand present only at certain times of the year. However, ambient noise levels at the beach area adjacent to the piers would increase noticeably during construction and operation of PRC 421. Beach areas which are more heavily used by the public are approximately 0.5 mile in each direction from the Project site and ambient noise levels would not be significantly increased during construction activities or operation of PRC 421. Therefore, noise impacts to recreational beach users, while above the threshold for the beach area directly adjacent to the Project site, is considered an adverse but less than significant impact.

Wells 421-1 and 421-2 are approximately 200 feet from Sandpiper Golf Course, where  $L_{eq}$  could reach 78 dBA; therefore, above the 70 dBA threshold identified by the Goleta GP/CLUP Noise Element. The access road and proposed pipeline replacements are adjacent to the 12<sup>th</sup> green at Sandpiper Golf Course, where  $L_{eq}$  would be even greater

during construction. Construction and activity on the access road and pipeline area are expected to take one day. All other construction activities are anticipated to last for approximately 45 days. However, the city of Goleta threshold states that noise in the vicinity of golf course and other recreational facilities be reduced *to the extent practicable* and does not specify construction noise. Therefore, this threshold would be more applicable to long-term operational noise which would be below the 70 dBA threshold. Further, standard noise reduction BMPs should be employed during construction including installing noise mufflers on all construction equipment and erecting temporary barriers between construction activities and Sandpiper Golf Course. In addition, in compliance with the city of Goleta Coastal Land Use Element, construction activities would occur between 7:00 a.m. and 4:00 p.m. on weekdays and not at any time on Saturdays, Sundays or holidays when the greatest number of golfers are present. Therefore, noise impacts to recreational golfers would be short-term and less than significant (Class III).

#### Mitigation Measures

The following measures should be incorporated into grading and building plan specifications to reduce the impact of construction noise:

**MM NZ-1a. Sound-Control Devices.** All construction equipment should have properly maintained sound-control devices, and no equipment should have an unmuffled exhaust system.

**MM NZ-1b. Additional BMPs.** Contractors should implement appropriate BMPs to avoid impacting the public including but not limited to changing the location of stationary construction equipment, shutting off idling equipment, and installing acoustic barriers around significant sources of stationary construction noise.

**MM NZ-1c. Buffers.** To the extent practicable, adequate distance buffers should be maintained between noise-generating machinery or equipment and any sensitive receivers. The buffer should ensure that noise at the receiver site does not exceed 65 dBA CNEL. For equipment that produces a noise level of 95 dBA at 50 feet, a buffer of 1600 feet is required for attenuation of sound levels to 65 dBA.

#### Rationale for Mitigation

While there would be no significant impacts, the above MMs (NZ-1a through NZ-1c) are recommended by the Goleta GP/CLUP Noise Element and would further reduce noise generated from the proposed Project.

**Impact NZ-2: Operational Impacts to Recreational Beach Users and Golfers**

**Noise levels associated with the long-term operation of the proposed Project potentially affecting a public beach and the Sandpiper Golf Course (Less than Significant, Class III).**

Impact Discussion

Upon operation of the two piers, the use of a downhole ESP pump would eliminate the surface pumping equipment and therefore the noise associated with the previous oil pumping equipment. Therefore, upon implementation of the proposed Project no long-term noise impacts to recreationalists would occur.

Mitigation Measures

No mitigation measures required.

Impacts Related to Future Transportation Options

For the purposes of this noise impacts analysis, it is assumed that Line 96 and the EMT would be used to transport crude oil recovered from PRC 421 using the barge Jovalan to ship the oil to a Los Angeles or San Francisco Bay area refinery through approximately the year 2013. However, as discussed earlier in this EIR (Sections 1.2.4, 2.4.2, and 3.3.6), several options exist for future transportation of oil from the Project, each with different potential noise impacts. These include ongoing use of the EMT through 2013, use of a pipeline to Las Flores Canyon, and trucking of oil to Venoco's ROSF Facility 35 miles to the south and subsequent transport to Los Angeles via pipeline. Potential impacts related to noise are not anticipated from use of the existing EMT transportation system.

Because the timing and exact mode of transportation of produced oil after the initial five years of Project operation are speculative at this point in time, the potential impacts of use of a pipeline or trucking are only briefly summarized here and are fully disclosed as part of the alternatives analysis (Section 4.11.5; Impacts NZ-3 and NZ-4). If neither of these options is permitted or available by the cessation of operation of the EMT, production from PRC 421 would be stranded, at least temporarily, until an alternative transportation mode is approved and becomes available. The noise related impacts of transportation by either pipeline or trucking are expected to be similar to those of the proposed project (see discussion of sub-transportation alternatives below)

**Table 4.11-3. Summary of Noise Impacts and Mitigation Measures**

Impact	Mitigation Measures
<b>NZ-1:</b> Construction Impacts to Recreational Beach Users and Golfers	<b>NZ-1a.</b> Sound-Control Devices. <b>NZ-1b.</b> Additional BMPs. <b>NZ-1c.</b> Buffers.
<b>NZ-2:</b> Operational Impacts to Recreational Beach Users and Golfers	None required.

#### 4.11.5 Impacts of Alternatives

##### No Project Alternative

Under the No Project Alternative, there would be no production at PRC 421, and the facilities would be decommissioned (under a separate evaluation). The No Project Alternative would avoid the majority of operational impacts associated with production, transfer, and transport of crude oil produced from PRC 421. No construction activities proposed under the described Project would occur; therefore no related noise impacts would result. Noise impacts generated from decommissioning activities are unquantified and would be analyzed in a future environmental document.

##### No Project Alternative with Pressure Testing

Under the No Project Alternative with Pressure Testing, the existing wells would remain shut-in and equipped with SSSVs. Temporary facilities would be installed to allow for temporary oil production to permit flow pressure testing. Flow pressure testing would commence for a period of 6 to 12 months. Similar to the proposed Project, temporary noise impacts would occur during the installation of flow meters on Well 421-2 and the installation of pipeline linking the pier to the EOF. The duration and extent of construction under this Alternative would be less than described under the proposed Project; therefore, construction noise impacts would be less than described under the proposed Project. Operational noise impacts as a result of flow pressure testing would be identical to those expected for the proposed project (less than significant) but would occur over a shorter period of time. Impacts to the noise environment would be less than significant. Mitigation measures NZ-1a through NZ-1c would apply under this Alternative.

##### Onshore Oil Separation at the EOF

Under this Alternative, oil produced from PRC 421 would undergo separation at the EOF and not at Pier 421-2. Therefore, no separation equipment would be installed on Pier 421-2. All other aspects of the proposed Project would be implemented under this alternative. The EOF currently generates noise from compressors and heater-treater

units that exceeds 80 dBA CNEL inside the facility and 65 dBA CNEL in certain locations along its property line. City of Goleta 06-FDP-038, Venoco's Development Plan permit, requires that sound levels not exceed 65 dBA CNEL at public receptor locations and not exceed 70 dBA at the perimeter of the facility. Increasing the throughput at the EOF would not increase the noise generated at the EOF.

Under this Alternative, Pier 421-1 would not be required for water re-injection and the decommissioning of Pier 421-1 would be accelerated. The accelerated decommissioning would require submittal of a decommissioning plan of Pier 421-1 to the CSLC and the city of Goleta within approximately 6 months of approval of this Alternative. The potential effects of decommissioning Pier 421-1 would be evaluated in a separate analysis.

Noise impacts would be the same as described under the proposed Project, i.e., temporarily increased noise levels during construction activity; therefore, less than significant. MMs NZ-1a through NZ-1C would apply under this Alternative.

#### Recommissioning Using Historic Production Methods

Under this Alternative, production would resume at PRC 421 using a gas-fired internal combustion engine to power the pump at Pier 421-2. A new gas-fired internal combustion engine and an above-ground pump would be installed, in addition to other supporting construction, repairs, and upgrades. Noise impacts would include temporary construction noise and operational noise due to the combustion engine and above-ground pump.

If this method of oil production is selected, operational noise associated with the combustion engine and above-ground pump would be audible from the adjacent beach and Sandpiper Golf Course. Noise levels associated with the gas-fired internal combustion engine and above-ground pump are 70 to 80 dBA and 60 dBA, respectively, at 50 feet (LSA Associates 2004). Based on these noise levels, operation of this machinery would result in an increase in ambient noise at Sandpiper Golf Course; however, noise levels at 200 feet from the source would be reduced to 68 dBA which is below the City of Goleta significance threshold (70 dBA for recreational areas). Noise levels at Sandpiper Golf Course are expected to be approximately 68 dBA, which was derived by taking the largest anticipated noise level associated with the gas-fired internal combustion engine (80 dBA at 50 feet) and with the doubling of distance the noise level would be reduced by 6 dBA. Therefore, at 100 feet the noise level would be approximately 74 dBA and at 200 feet, 68 dBA. Noise levels associated with using

historic production methods would be greater than the proposed project, but still below significance criteria. Therefore, operation of this machinery would result in long-term, but less than significant operational impacts at Sandpiper Golf Course.

With regard to the adjacent beach area, long-term ambient noise levels would be noticeably increased; however, as discussed previously, the adjacent beach area is a low-use ephemeral beach area and is not considered a sensitive receptor as defined by the city of Goleta. Further, there are no criteria noise levels for beach noise. Therefore, impacts are considered less than significant. MMs NZ-1a through NZ-1c would apply under this Alternative.

#### Re-injection at Platform Holly

Under this Alternative, all aspects of the Project would remain the same, with the exception that Pier 421-1 would be decommissioned and produced water would be transported via pipeline to Platform Holly and re-injected offshore rather than at 421-1. Pier 421-1 would not be required for water re-injection and the decommissioning of Pier 421-1 would therefore be accelerated. The accelerated decommissioning would require submittal of a decommissioning plan for Pier 421-1 to the CSLC and the city of Goleta within approximately 6 months of approval of this Alternative. The potential noise impacts associated with the decommissioning of Pier 421-1 would be evaluated in a separate analysis.

Under this Alternative, noise impacts would be the same as described under the proposed Project, i.e., temporarily increased noise levels during construction activity, therefore, less than significant. MMs NZ-1a through NZ-1c would apply under this Alternative.

#### Transportation Sub-Alternative Options

##### *Pipeline Sub-Alternative*

This method of crude oil transportation would involve the construction of an onshore 6-inch-diameter crude-oil pipeline from the EOF to the AAPL at Las Flores Canyon.

#### **Impact NZ-3 Pipeline Construction Impacts to Sensitive Receptors**

**Pipeline construction machinery would produce short-term noise in the vicinity of the pipeline right-of-way (Potentially Significant, Class II).**

1 *Impact Discussion*

2 Short-term noise impacts would occur due to construction of the pipeline in areas where  
3 sensitive receptors are close to the pipeline right-of-way.

4 Currently, day background  $L_{eq}$  noise levels along the proposed pipeline ROW, in the  
5 vicinity of the Bacara Resort, Sandpiper Golf Course, and residences on the north side  
6 of Highway 101 are in the range of 60 to 62 dBA, as determined by the noise study  
7 performed on August 9, 2005 (CSLC, 2006).

8 Noise levels from pipeline construction machinery were modeled using documented  
9 noise levels (EPA 1971) from typical pipeline construction machinery and equipment.  
10 Noise at 50 feet from the pipeline ROW could reach 90 dBA  $L_{eq}$ ; however, at 1,000 feet,  
11  $L_{eq}$  would be 64 dBA. The pipeline would be constructed near the Bacara Resort and  
12 residences on the north side of Highway 101. Depending on the exact route, the  
13 pipeline could be as close as 200 feet to these sensitive receptors, where  $L_{eq}$  could  
14 reach 78 dBA. This impact would be short term, but it would be potentially significant.

15 Depending on the terrain, soil properties, and the boring machine used for pipeline  
16 construction, boring activities may be necessary during evening or night hours. If boring  
17 is conducted during the evening or night hours, CNEL could be in excess of 75 dBA,  
18 which would be a potentially significant impact (Class II).

19 Mitigation Measures

20 **MM NZ-3a. Noise Reduction Plan.** The Applicant shall prepare a noise reduction  
21 plan which shall be approved by Santa Barbara County and the city of  
22 Goleta. The plan would include but not be limited to the following  
23 measures:

- 24 • Post notifications to the residents and landowners about the planned  
25 pipeline construction near their residence/land at least one week  
26 before construction at that location.
- 27 • Ensure that construction activities do not occur within residential areas  
28 between 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays but not  
29 at all on Sundays, or holidays unless specifically required by permits or  
30 at the direction of the county/city staffs.

- Ensure that all internal combustion engines are properly maintained and that mufflers, silencers, or other appropriate noise-control measures function properly.

**MM NZ-3b. Boring Noise Reduction Measures.** If boring under Highway 101 or any other noise-producing activity during the pipeline construction is required to be conducted during the evening or night hours (from 7:00 p.m. to 7:00 a.m.), the Applicant shall locate the boring machine entry pit on the north side of the highway and provide temporary noise barriers to minimize noise at the residences on the northeast side of the highway.

#### Rationale for Mitigation

Limiting the hours of construction would reduce impacts during times when the noise could produce the most impact. Notification of the landowners would ensure that they are prepared and could potentially help reduce impacts by keeping windows closed and limiting outside activities. Proper maintenance of all machinery would ensure that operation would produce the lowest possible noise level.

Locating the boring machine entry pit on the opposite side of the highway from the Bacara Resort would add distance between the boring machine and the sensitive receptor. Noise barriers would further reduce evening and night noise from the boring machine.

#### *Trucking Sub-Alternative*

Under this alternative, oil would be transported by double-tanker truck south to the ROSF where it would be transferred to a pipeline that feeds refineries in the Los Angeles area.

#### **Impact NZ-4: Increased Noise Along Hollister Avenue Associated with Truck Transportation**

**A maximum of 5 roundtrip truck trips per day associated with potential truck transportation would slightly increase noise along Hollister Avenue upon implementation of the proposed Project (Less than Significant, Class III).**

#### Impact Discussion

If the pipeline is not constructed, crude would be transported via truck. There would be a maximum of 5 roundtrip truck trips per day. This would result in a very small level of noise increase along Hollister Avenue. For highways, this level of impact would be

1 even less noticeable because of large volumes of vehicles already traveling on these  
2 highways. Thus, noise impacts from the additional truck travel would be adverse, but  
3 less than significant (Class III).

4 Mitigation Measures

5 No mitigation measures required.

6 **4.11.6 Cumulative Projects Impact Analysis**

7 No noise impacts are anticipated to occur during operation of the wells at PRC 421.  
8 However, noise would result from transportation of oil by barge Jovalan. Several  
9 marine transportation projects are proposed offshore of the Santa Barbara County coast  
10 and other areas of the California coast, where the proposed Project could produce  
11 cumulative impacts because of the barge Jovalan's trips to refineries in the Los Angeles  
12 and San Francisco areas. However, noise impacts occur only when the source is in  
13 close proximity to a sensitive receptor. There are no sensitive receptors offshore or  
14 within the ports that the barge Jovalan would enter. Therefore, the Project would not  
15 contribute to cumulative noise impacts with regard to operation.

16 A number of projects are located within close proximity of the proposed Project site. As  
17 stated above, no noise impacts would occur during operation of PRC 421; therefore,  
18 cumulative noise impacts would be limited to temporary construction noise. For the  
19 purposes of this analysis, cumulative impacts are only considered significant for projects  
20 with the potential to be under construction during the same time period as PRC 421.  
21 These projects include: Sandpiper Golf Course Renovations and the Ellwood Mesa  
22 Open Space Plan. In the event that these projects are implemented concurrently with  
23 the proposed Project, the Project would contribute to cumulative noise impacts.  
24 However, impacts would be temporary (last only the duration of construction) and all  
25 projects would be required to comply with city of Goleta noise standards.